IN THE CLAIMS

1. A method of chemical vapor deposition on a substrate comprising:
   a) placing a substrate on a carrier and in a deposition chamber;
   b) rotating said substrate;
   c) heating said substrate, said heating applied to create a temperature gradient above a deposition surface of said substrate wherein the temperature increases with increasing distance from said deposition surface; and
   d) providing a flow of process gas across a surface of said substrate.

2. A method as recited in claim 1 wherein said heating brings said substrate to a temperature to cause chemical vapor deposition.

3. A method as recited in claim 1 wherein said heating is accomplished with a first heater radiating toward said deposition surface, and with a second heater radiating toward a back surface of said substrate.

4. A method as recited in claim 3 wherein said first heater radiates a different amount of heat energy than said second heater.

5. A method as recited in claim 4 wherein said heating includes a first thermal plate between said first heater and said substrate, and a second thermal plate between said second heater and said substrate.

6. A method as recited in claim 5 wherein said temperature gradient includes a temperature difference in the range of 100°C to 200°C between said first plate and said second plate.

7. A method as recited in claim 1 wherein said providing includes supplying said process gas at a flow rate in the range of 200 sccm to 800 sccm.

8. A method as recited in claim 1 wherein said providing includes passing said process gas over said substrate at a gas velocity in excess of 100 cm/sec.

9. A method as recited in claim 1 wherein said providing includes injecting said process gas at said surface of said wafer with gas injectors so as to concentrate said gas at said surface.

10. A method as recited in claim 9 wherein said gas injectors are temperature controlled.

11. A method as recited in claim 9 wherein said gas injectors are directed at said deposition surface.

12. A method as recited in claim 1 wherein said temperature gradient has a magnitude in the range of 50 to 100° C per inch.